

ENVIRONMENTAL LEADERSHIP ACTION PLAN

BOCC Annual Retreat

January 27-29, 2021

Leslie Johnson

Deputy County Manager



Agenda



Policy & Action Plan Recap



Estimated Budget



BOCC Discussion (30-45 min)



Next Steps

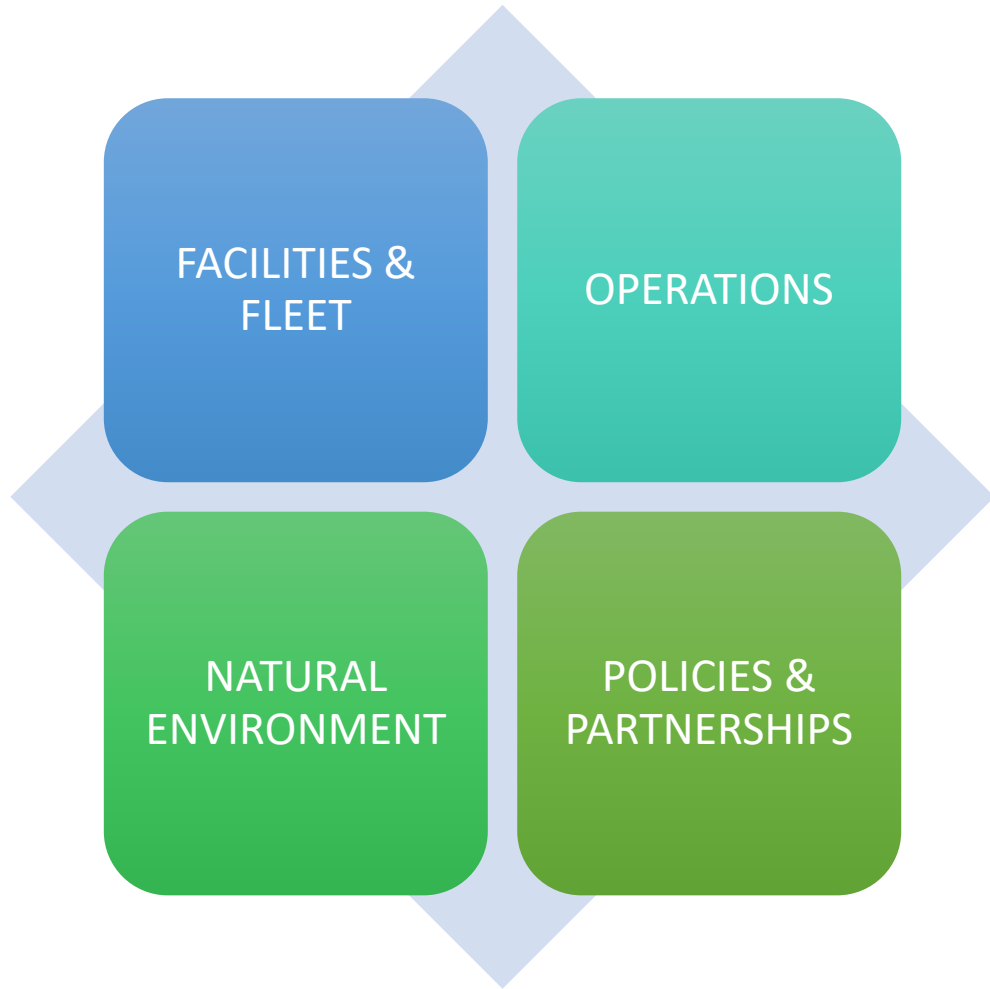


Environmental Leadership Policy

- Collective Call for Action
- Connects with Health
- Action is a Priority
- Innovation is Key
- Advances Equity
- Commits to Justice
- Recognizes Resilience
- Minimum Standards
- Climate Change & Current Response
- Collective Expertise
- Past Policies Highlighted
- Holistic



Policy to Action



BE IT FURTHER RESOLVED that an affiliated Environmental Leadership Action Plan (ELAP) guide the activities of County government; such that the County may take result-oriented steps; and align operations in support of current and future pollution reduction, resource conservation, and climate preparedness initiatives;



Assumptions for Implementation



Strive to Achieve Local Co-Benefits

Purchase Renewable Energy Credits As Needed to Achieve Goal

Align Capital Improvement Projects to County's CIP Cycles

Adjust timelines as technology and cost efficiencies are realized

Progress is dependent on funding allocations



What Are RECs?



Purchase Renewable Energy Credits As Needed to Achieve Goal

Renewable Energy Credits (or Certificates) represents energy generated by renewable energy sources such as solar or wind power facilities.

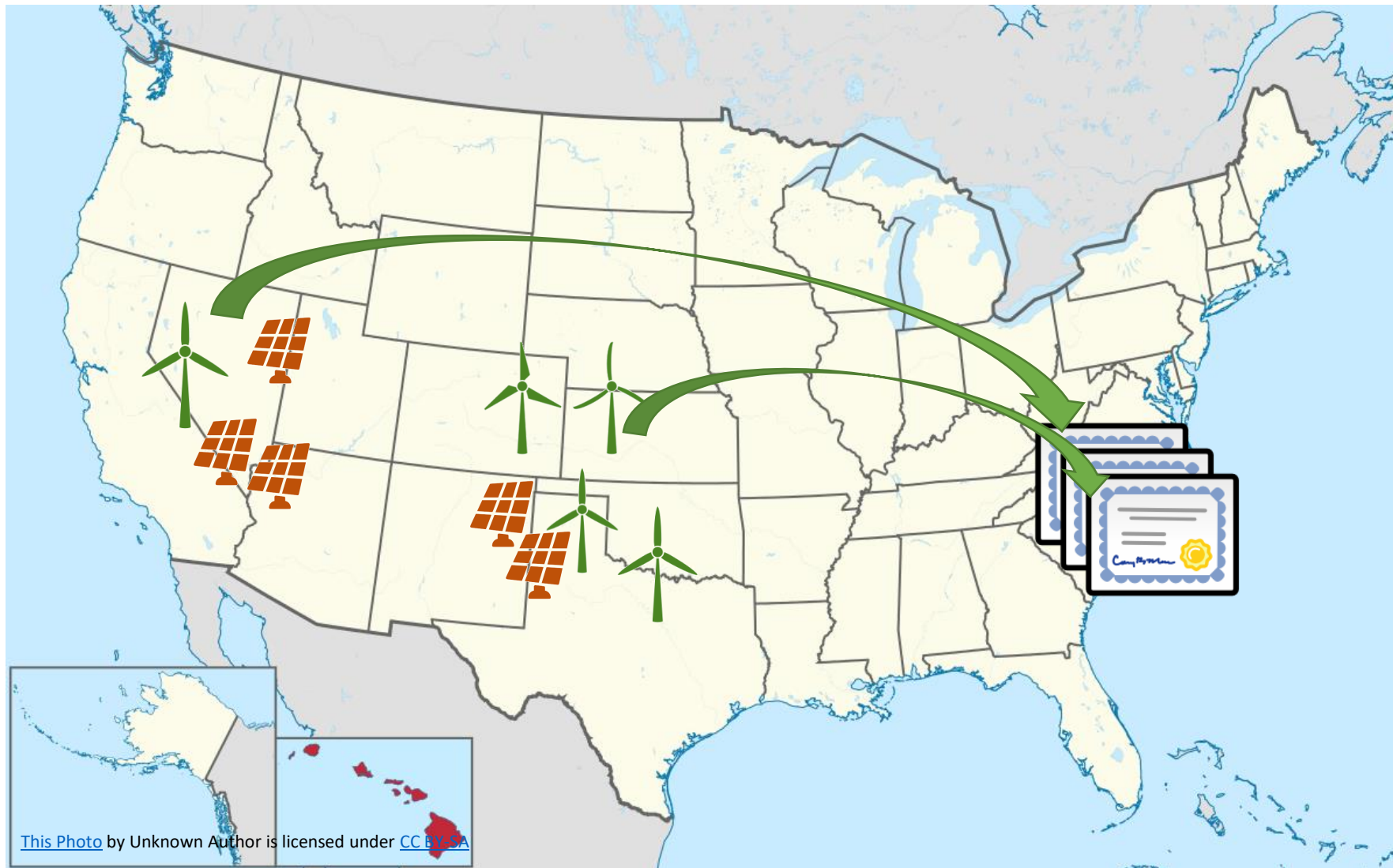
A REC represents one megawatt-hour (1,000 kilowatt-hours) of electricity generated by a renewable energy source.

Many companies are not able to invest in the infrastructure of solar panels or wind turbines so they purchase “green energy” credits (RECs).

If a business buys RECs, it receives credit for reducing the carbon footprint by the amount of megawatt-hours purchased.

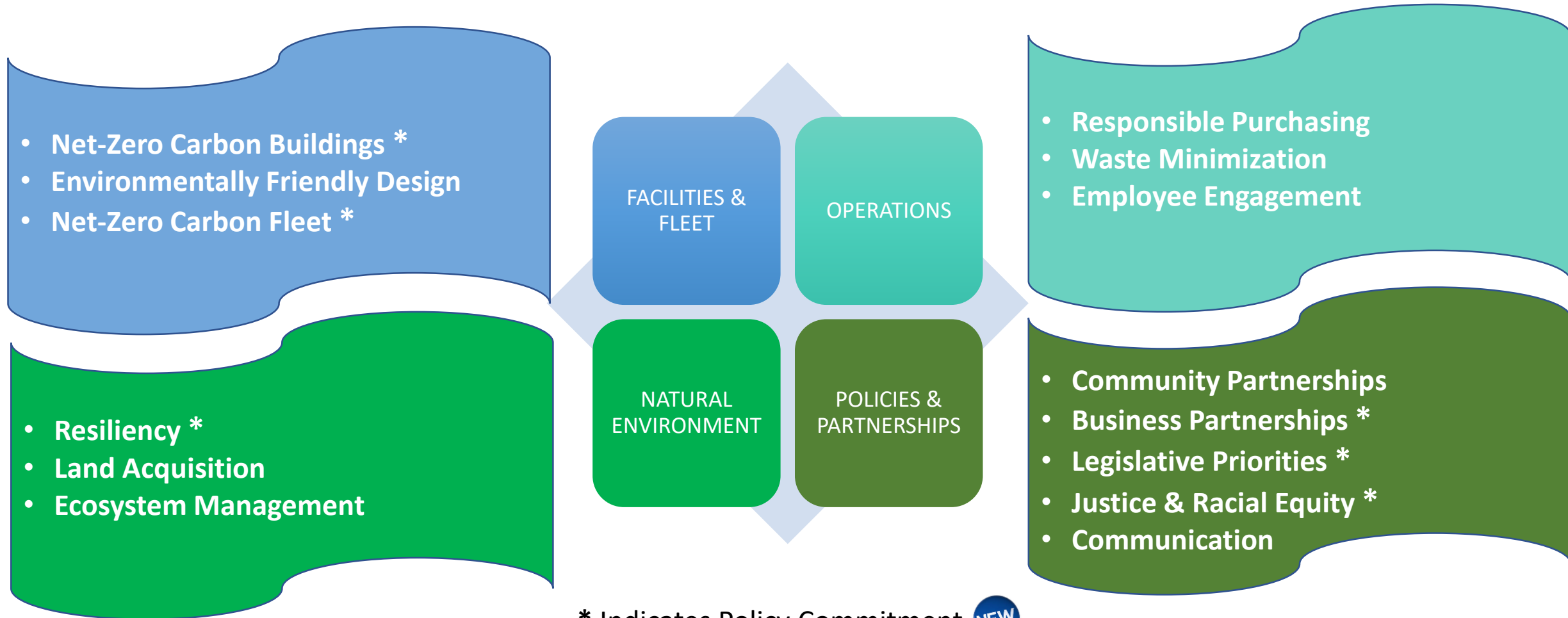


Renewable Energy Certificates



Framework for Action Plan

(Policy Commitments)



* Indicates Policy Commitment **NEW**



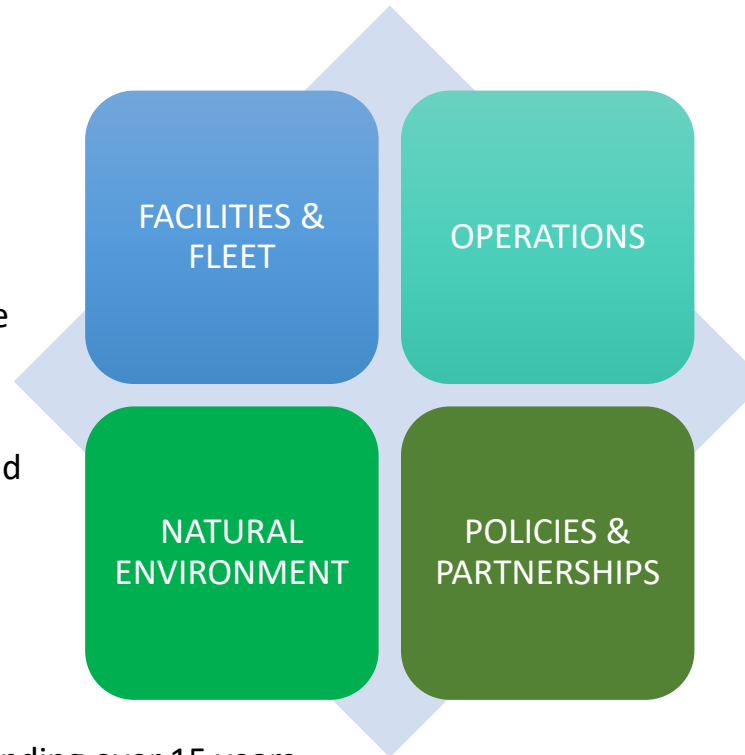
Minimum Estimated Costs

Facilities & Fleet

- This area requires aggressive financial resources for Mecklenburg County to be successful in achieving a 2035 goal
 - **+25%** funding requests for new construction and major renovations
 - FY22 - **\$6.8M** in capital requests
 - FY23 - **\$13M** in capital requests
 - FY24-28 – Revisions TBD at CIP and budget process points
- External Volkswagen Settlement Funds are available but are not a guaranteed funding source

Natural Environment

- Increase in funding is included for accelerated land acquisition as the County approaches buildout
 - **\$4M** increase in PRK annual funding
- Assuming a significant impact CIP investment approach, including a Storm Water Fee increase from FY22-FY26
 - Additional investment from STW's current funding over 15 years **\$98.9M** for stream restorations; **\$76.3M** to address residual flood risks



Operations

- Actions related to Responsible Purchasing and Employee Engagement can be made with minimal additional funding
- New construction and demolition waste minimization efforts would require a tipping fee increase. These price points are dependent on what is reasonable when compared to private sector competition.

Policies & Partnerships

- Actions in this area are particularly hard to identify costs
- If business partners (CMS, CPCC, Etc.) are to be included in a transition to net-zero carbon, additional funding will be need to be allocated
- Working in economies of scale does offer the potential for cost saving advantages

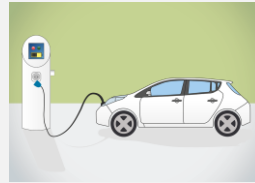


Estimated Budget

(Best Available Estimates)



Retrofits, Renovations, New Construction



Fleet



Natural Environment



Financial Summary



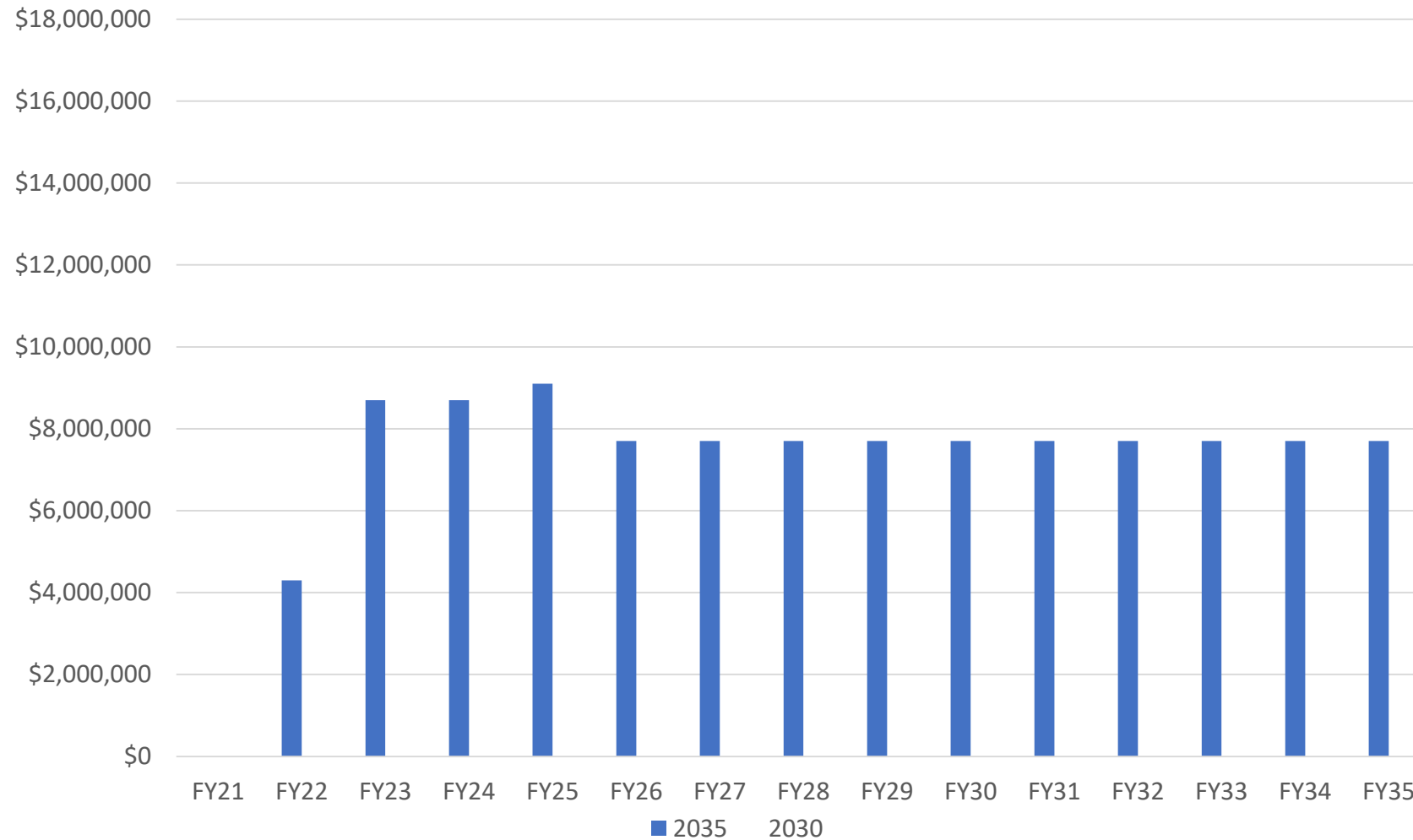
Retrofits, Renovations, New Construction

- Deep energy retrofits in existing buildings (e.g., high efficiency equipment, new control systems, insulation, new windows)
- Install on-site renewable energy sources, where feasible (e.g., geothermal, solar panels)
- Integrated Energy Design in all new facility construction and major renovations (e.g., prioritizing recycled materials, design strategies)
- Net zero facility design is estimated to be a 25% increase in cost for each capital improvement project
- Staffing (1-3 FTEs)



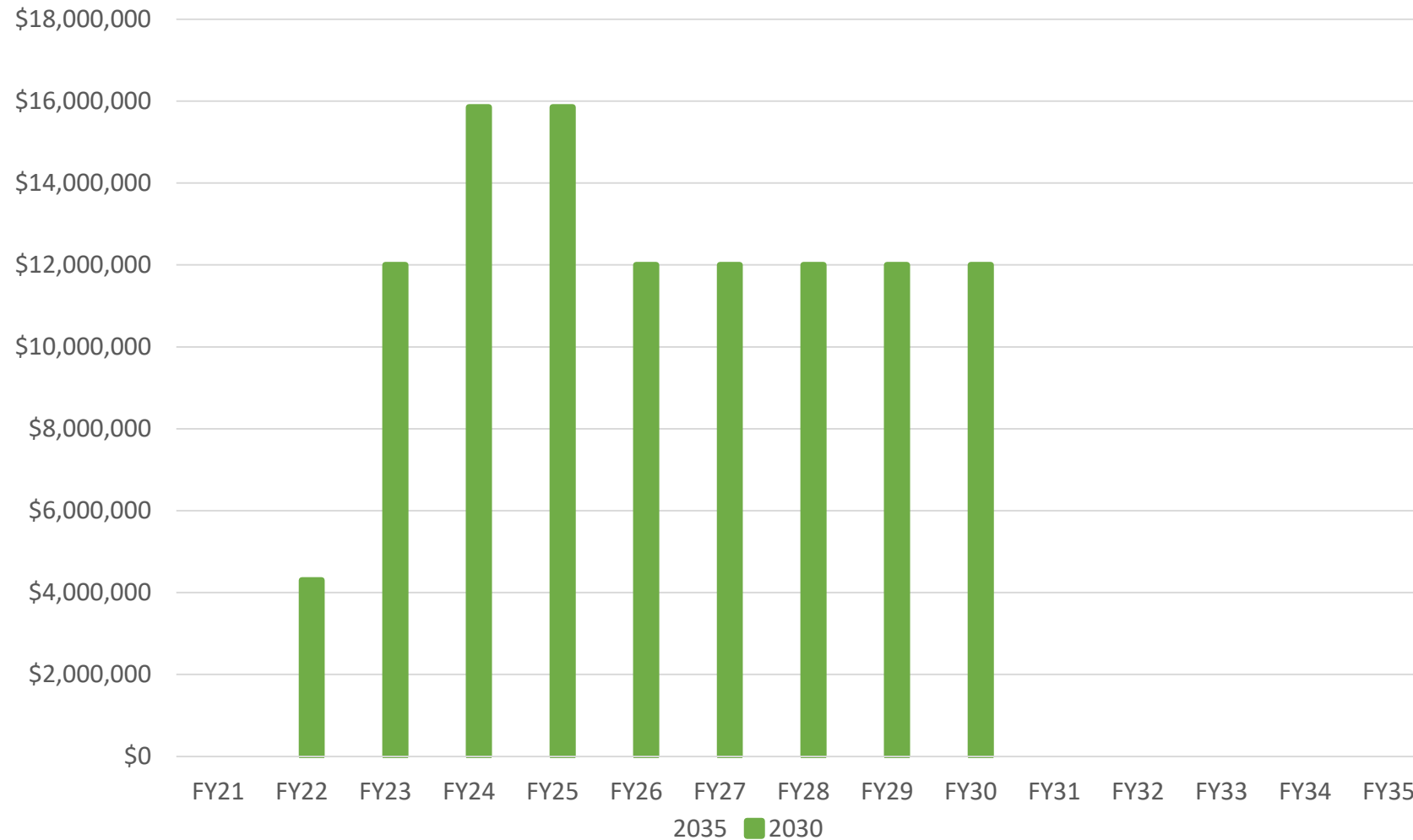
Retrofits & Renovations

Annual Expenses



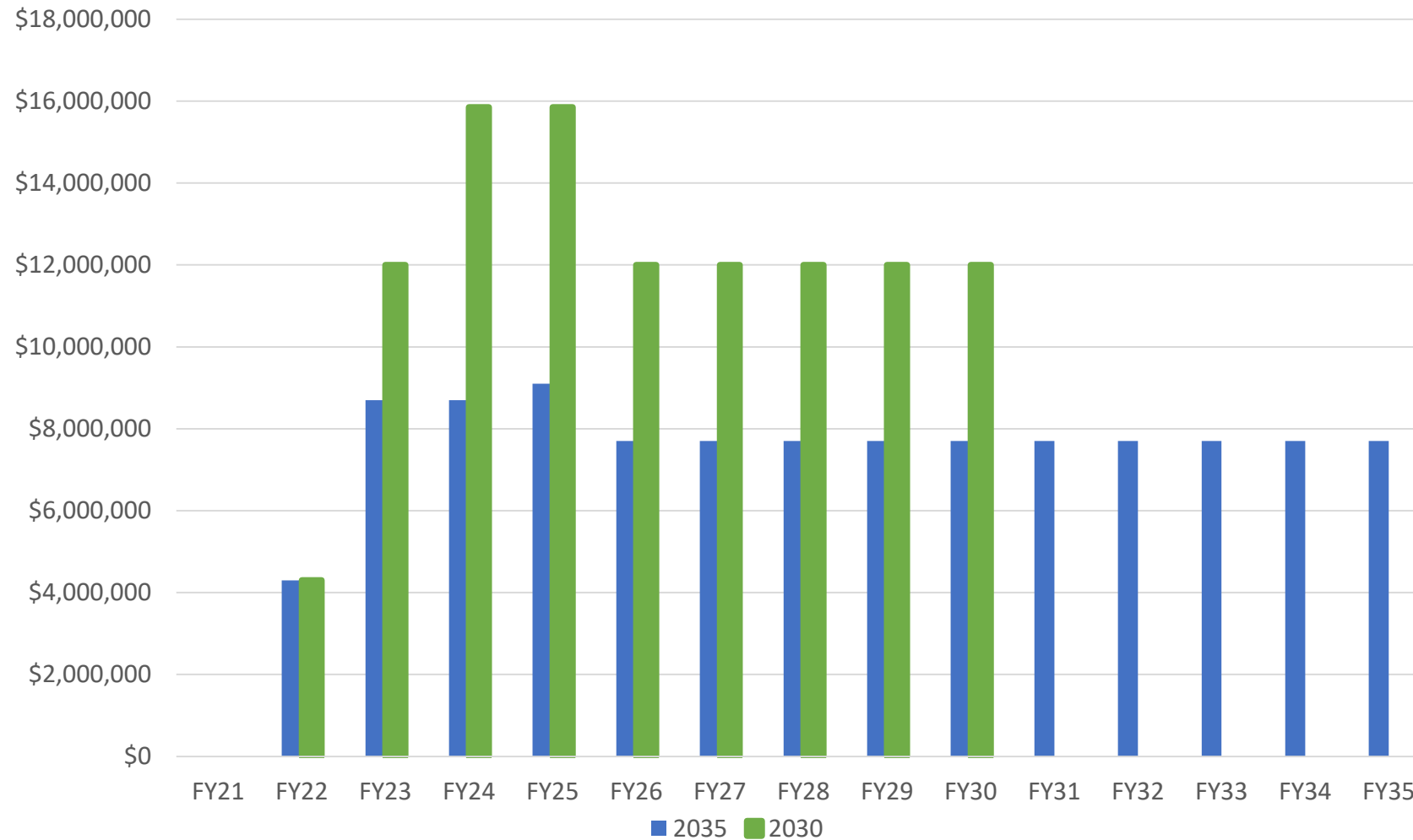
Retrofits & Renovations

Annual Expenses



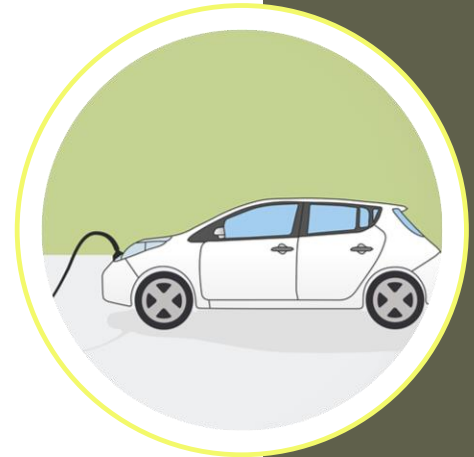
Retrofits & Renovations

Annual Expenses

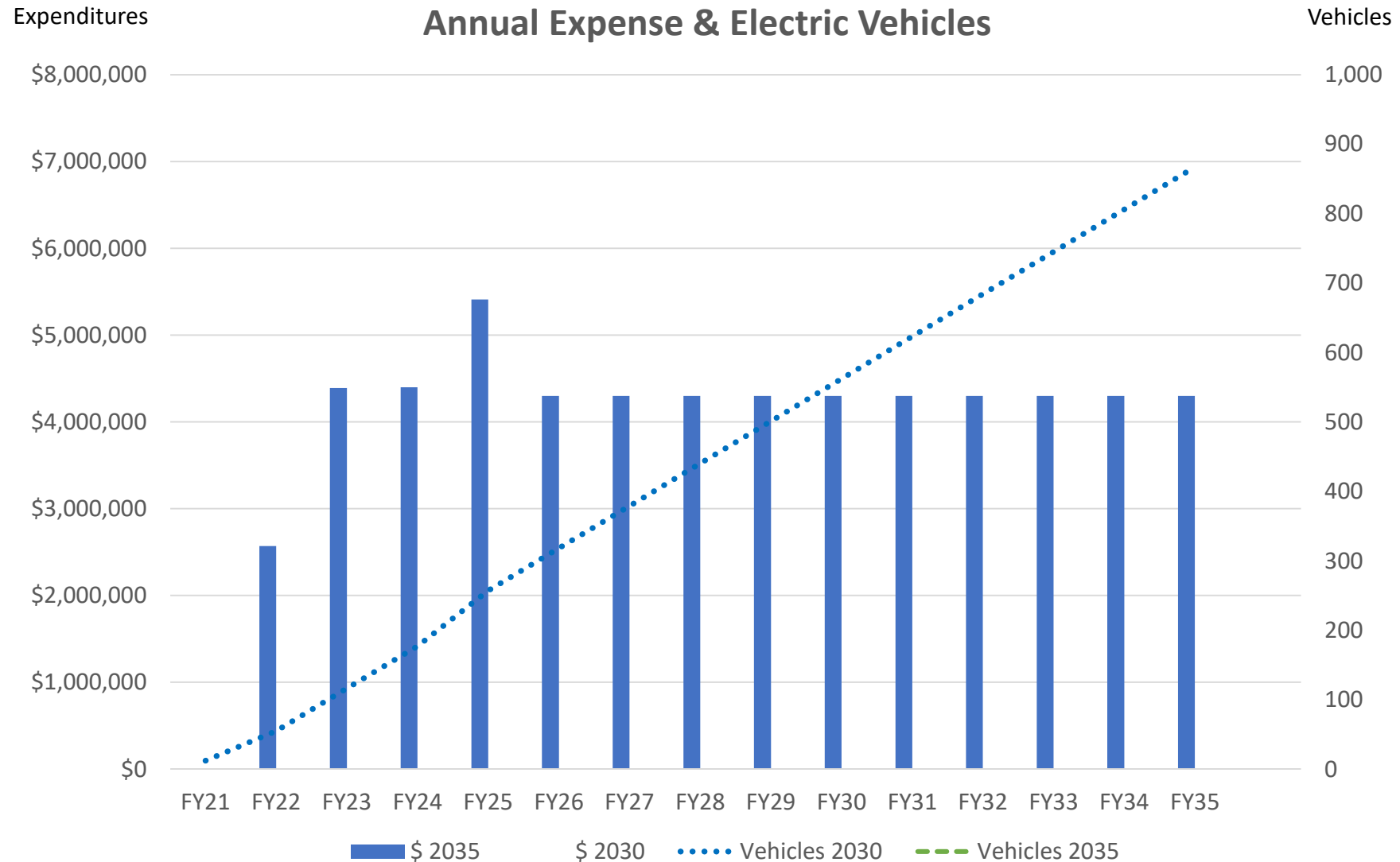


Fleet & Equipment

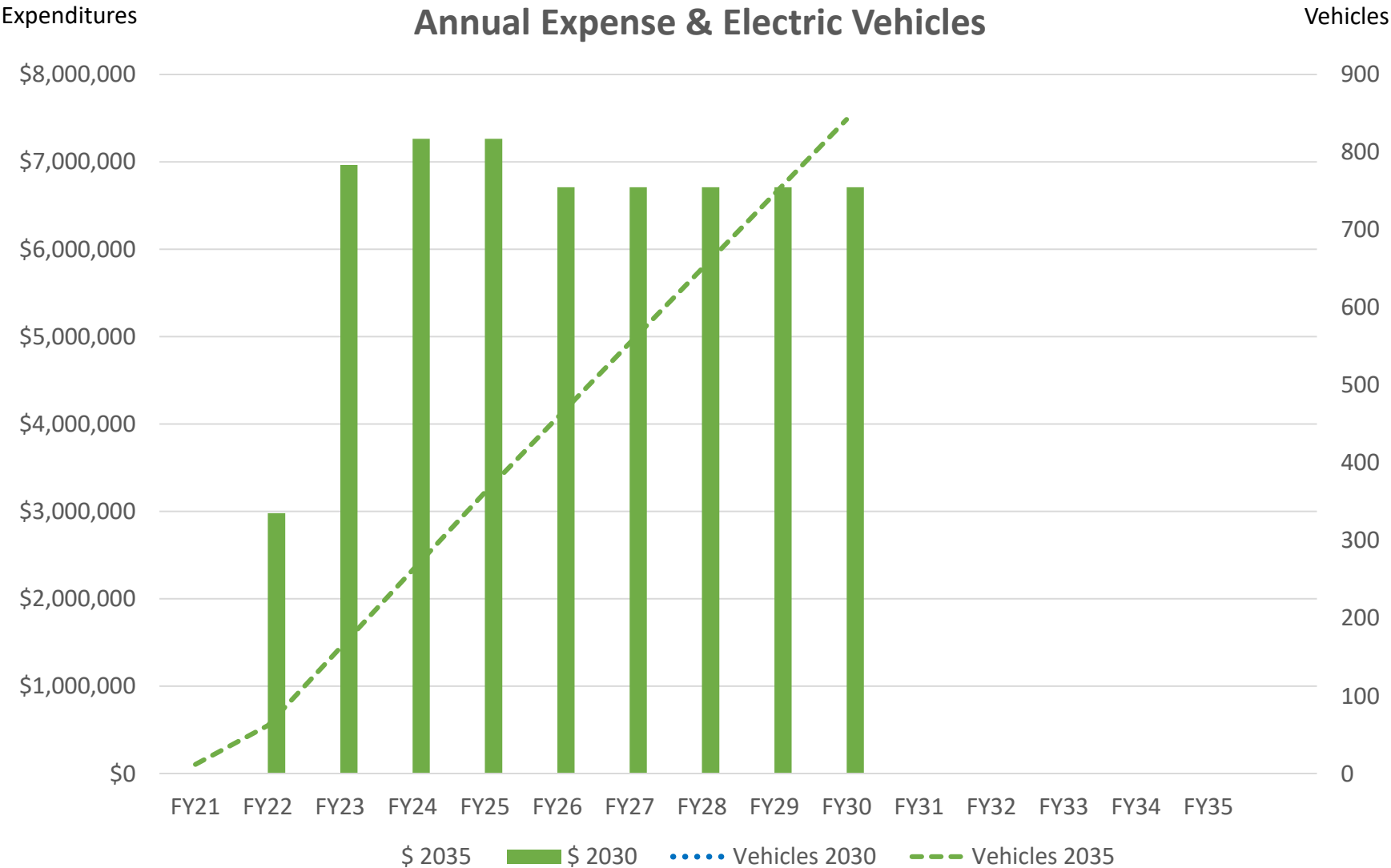
- Electric Vehicles (cars and light trucks)
- Charging Stations
- Onsite Solar Vehicle Charging
- Renewable Fuels



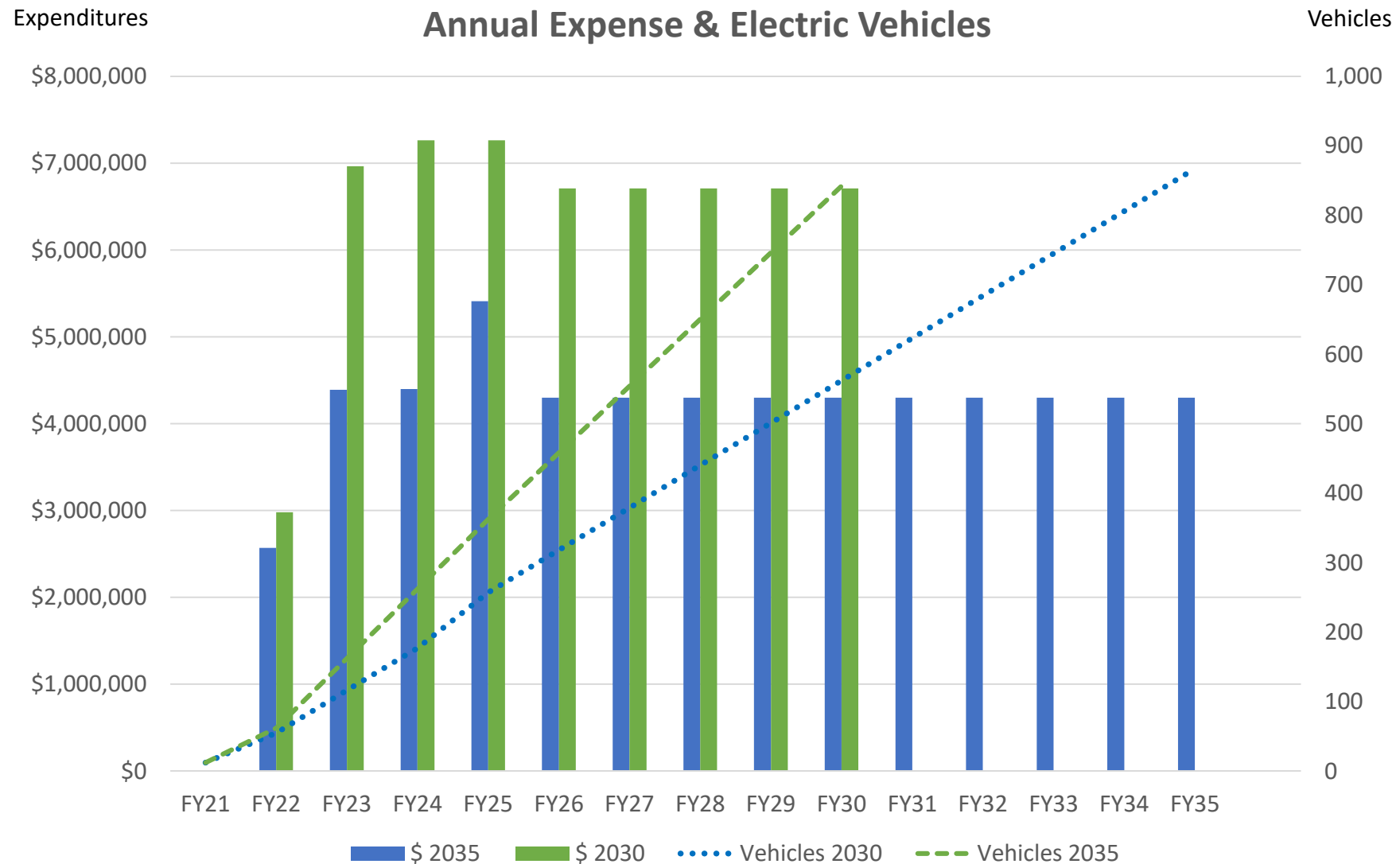
Fleet & Equipment



Fleet & Equipment



Fleet & Equipment



Natural Environment

Base Budget

\$6.6 M	Land Acquisition
\$3.3 M	Stream Restoration
\$1.9 M	Flood Buyouts & Retrofits
\$200,000	Invasive Removal

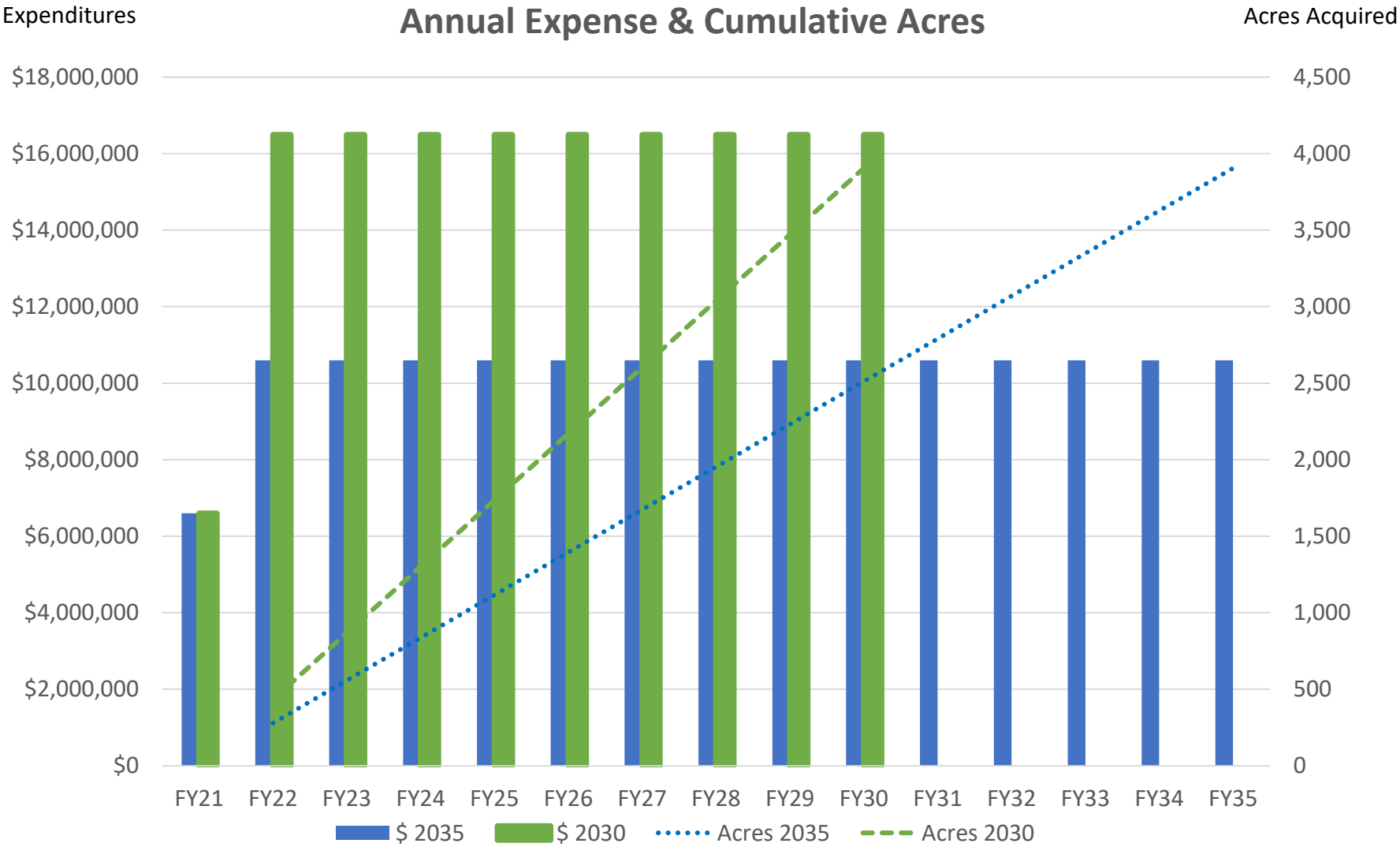
- Maintain minimum rate of 19 parkland acres per 1000 residents
- 53.6% of streams need to be restored (fee increase required)
- 30% of eligible buyout and retrofit buildings need mitigation (fee increase required)
- 5,000+ acres of invasive species systemwide to be treated
- Equipment for Prescribed Fires (also known as Controlled Burns) *



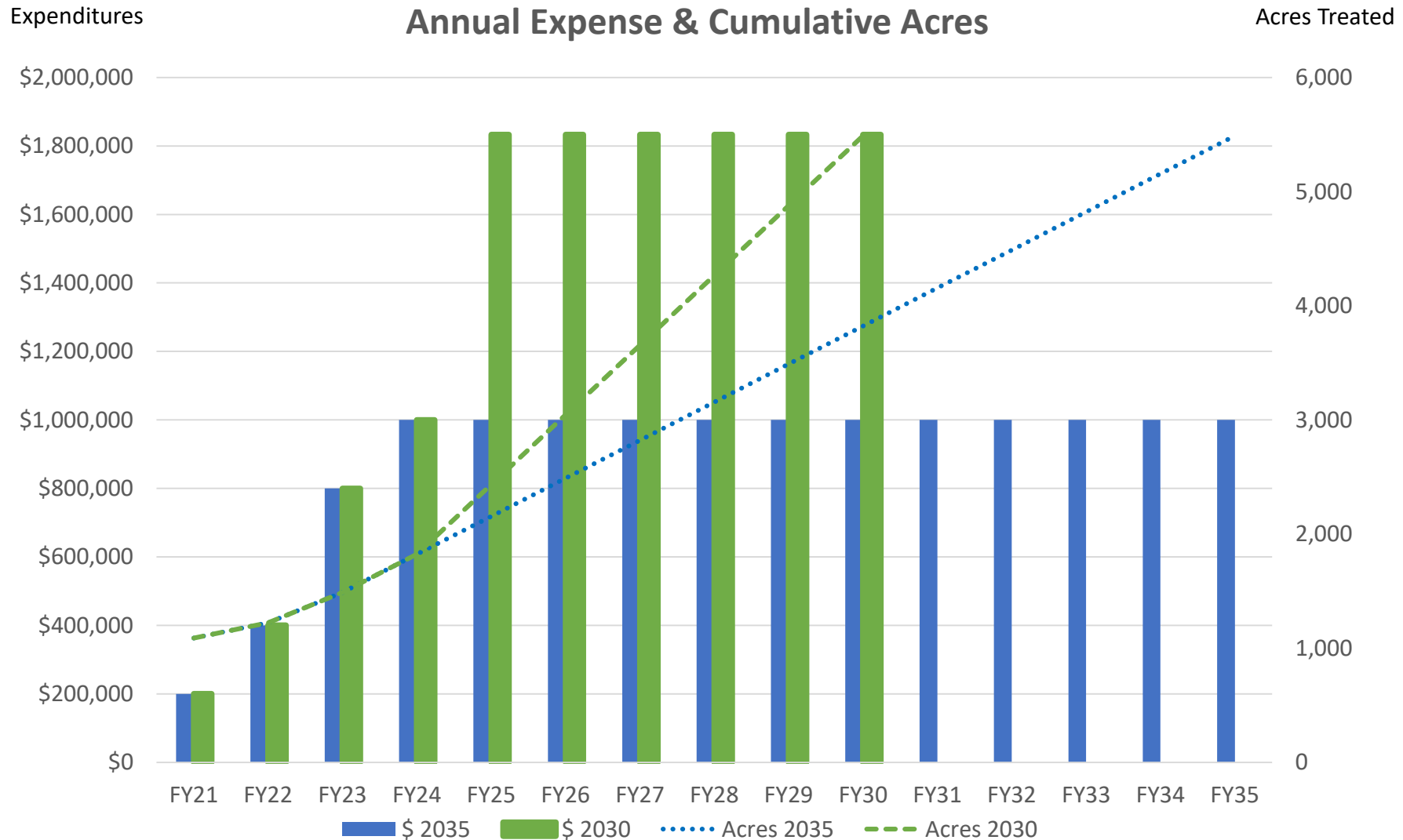
* One-time funding



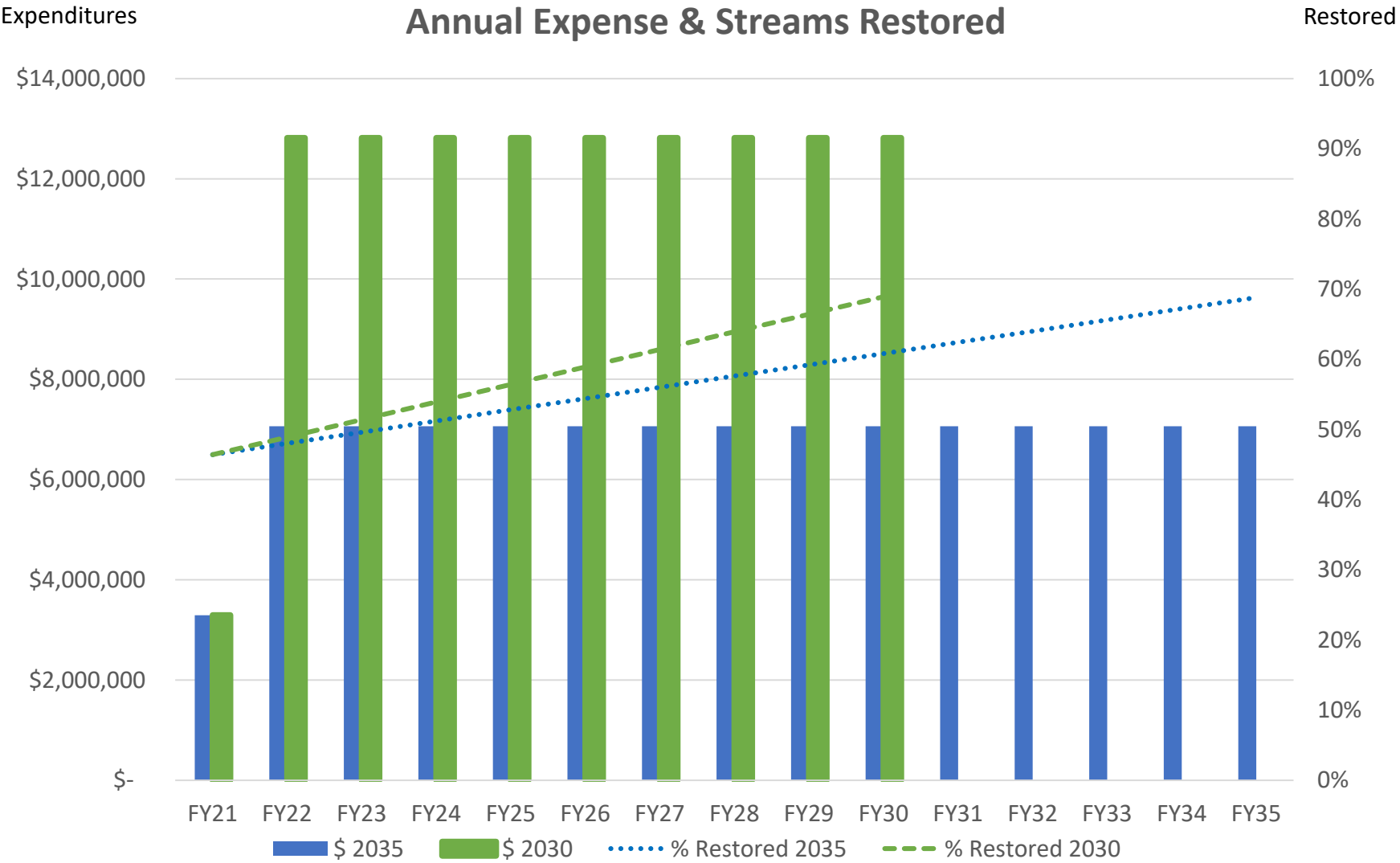
Land Acquisition



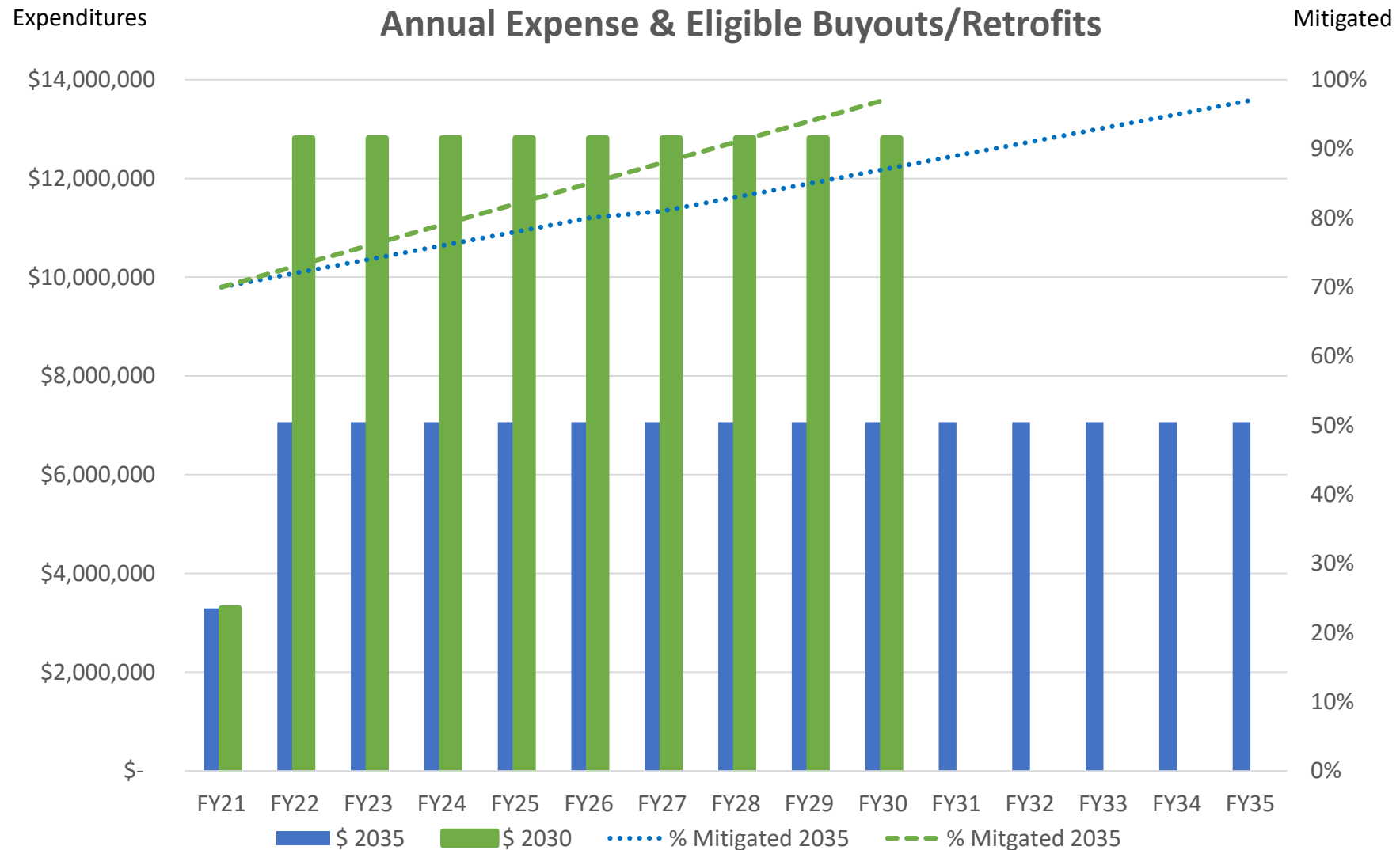
Invasive Removal



Stream Restorations



Flood Mitigation



Financial Summary

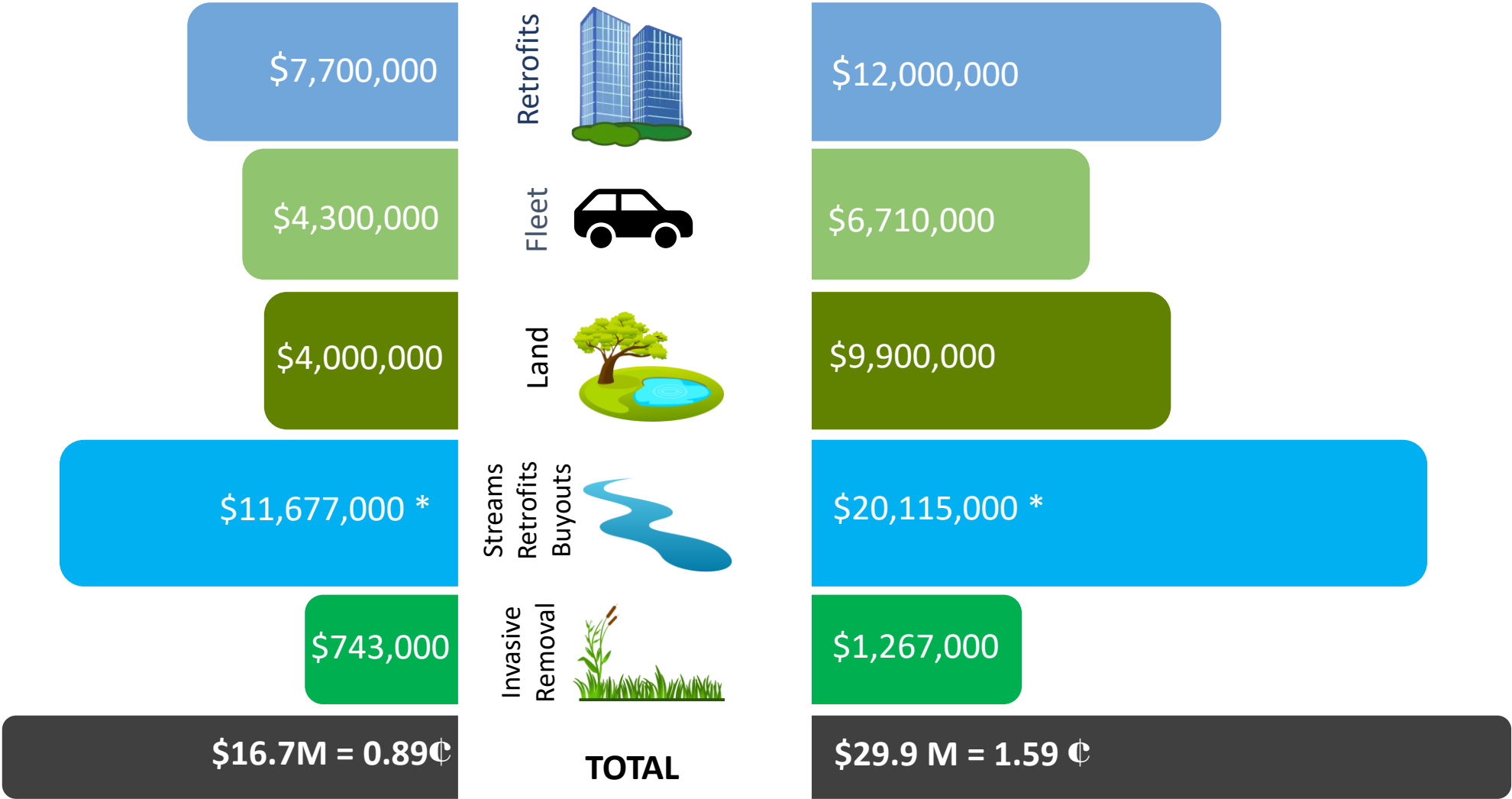
- Budget Estimates Annualized
- Storm Water Fee Increases
- Renewable Energy Credits (RECs)
 - Mecklenburg County Facilities Energy Use
 - Cost for RECs
- Implementation Scenarios



Budget Estimates Annualized

2035

2030



* Requires increased fees.
FY21 Value of a Penny = \$18,752,228.

Storm Water Fee Increases

2035

2030

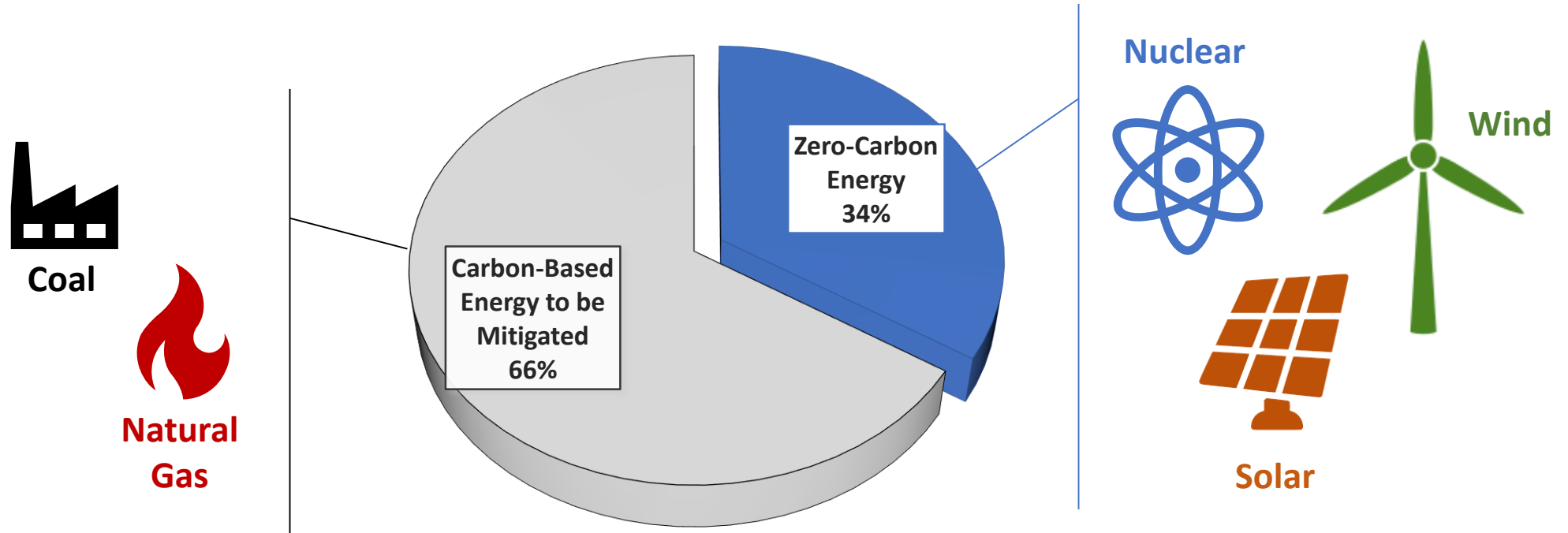
Year	Tier II Residential FY21: \$1.20 per month	Non-Residential FY21: \$20.00 per month, per acre of imp area
Base year	\$ -	\$ -
1	\$ 0.25	\$ 4.54
2	\$ 0.25	\$ 4.54
3	\$ 0.25	\$ 4.54
4	\$ 0.25	\$ 4.54
5	\$ 0.25	\$ 4.54
6	\$ -	\$ -
7	\$ -	\$ -
8	\$ -	\$ -
9	\$ -	\$ -
10	\$ -	\$ -
11	\$ -	\$ -
12	\$ -	\$ -
13	\$ -	\$ -
14	\$ -	\$ -
15	\$ -	\$ -
Total	\$ 1.25	\$ 22.70

Year	Tier II Residential FY21: \$1.20 per month	Non-Residential FY21: \$20.00 per month, per acre of imp area
Base year	\$ -	\$ -
1	\$ 0.25	\$ 4.54
2	\$ 0.25	\$ 4.54
3	\$ 0.25	\$ 4.54
4	\$ 0.25	\$ 4.54
5	\$ 0.25	\$ 4.54
6	\$ 0.50	\$ 8.89
7	\$ 0.50	\$ 8.89
8	\$ 0.50	\$ 8.89
9	\$ 0.50	\$ 8.89
10	\$ 0.50	\$ 8.89
	\$ 3.73	\$ 67.15



Mecklenburg County

Total Energy Used By Existing Facilities: ~137,000 Megawatt Hours



What Do RECs Cost?

- Purchase RECs annually to offset carbon-based energy.
- RECs are market-based comparable to the open stock market.
- Prices vary by location, availability and demand.
- In 2020, published prices generally ranged \$.90 - \$40 per MWh.
- Based on these prices and the County's current carbon energy use of approximately 91,000 MWh for buildings and facilities, the estimated cost for RECs is **\$81,900 - \$3,640,000 per year**.
 - Duke Energy representative indicates current price for NC RECs is \$.90 - \$4 per MWh, or **\$81,900 - \$364,000/yr**.
- Using the price ranges and accounting for the County's current carbon emissions from vehicles, the estimated cost for RECs to offset fleet consumption is **\$30,000 - \$1,400,000 per year**.
 - Alternatively, purchasing Carbon Offsets \$3/ton - \$50/ton, the estimated cost is **\$30,000 - \$530,000 per year**.



Implementation Scenarios

Ramp Up



- Small steady financial investments over a long period and then sustain funding and adjust as necessary to maintain performance
- Purchase RECs as necessary

Accelerated



- Large financial investments over a short period and then adjust funding to maintain performance
- Achieve goal(s) in less than 10 years
- Purchase RECs as necessary

Net Zero Carbon



- Purchase RECs to offset carbon emitted from buildings, facilities and fleet
- Purchase Carbon Offsets for vehicles

Note: Only Achieves
Net Zero Carbon Goals



BOCC Discussion

(30 - 45 mins)



Local Co-Benefits



Renewable Energy Credits (RECs)



Target Timeframe: 2035 vs 2030



Questions & Answers



Next Steps



Final Review & Edits
(February 2021)



BOCC Environmental Stewardship Committee
BOCC Adoption of Policy Modifications
(February/March 2021)



BOCC Adoption of Budget
(June 2021)



Implementation & Evaluation
(July 2021 - Ongoing)

